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THE BOULDER TRAINING MODEL: AN ASSESSMENT OF ITS MAINTENANCE

BY TIMOTHY PLASKA, JAMES BURGESS, AND MARY TILLEMA

Editor's Note: This article is a condensed version of a paper presented at the Fifth Annual Convention of the Association for Behavior Analysis, Dearborn, Michigan, June, 19, 1979. Complete copies of the paper are available from the first author, Boulder River School and Hospital, Boulder, Montana, 59632.

Introduction

Recently within the United States, the care, training, and habilitation of the institutionalized retarded has become a major social issue. Concerns with the right to treatment, the movement to convert institutions to training facilities, and the emphasis on the developmental model and the normalization principle have resulted in many institutions pursuing staff training models to facilitate the conversion from custodial-oriented facilities to training facilities.

The importance of adequate staff training has been emphasized by many authors, such as Watson, Gardner, and Sanders (1971) and Gardner (1972), and the increasing demand for behavioral programs within institutional settings likewise has increased the need for training non-professional staff to be behavioral engineers. Direct care staff often number as much as 50% of an institutions's employee population (Iwata, Brown, Bailey, Foshee, and Alpern, 1976), and since they are in constant direct contact with the residents, they constitute an invaluable resource as behavior-change agents.

Generally, many administrators within institutions have assumed that in-service training for direct-care staff leads to improved staff performance and, finally, to more effective service programs (Quilitch, 1975). Investigators who have attempted to evaluate the effects of in-service training on subsequent staff performance (Gardner, 1973; Cochran and Steiner, 1966; Johnson and Ferryman, 1969; Panyon and Patterson, 1974) have demonstrated that in-service training can increase verbal knowledge and training skills, but studies in which staff or resident behavior was repeatedly monitored have suggested that in many cases, instructions, in-service training and the development of job assignments can be expected to have relatively small (Martin, 1972), temporary (Hollander, Plutchik and Horner, 1973; Panyon, Boozer and Morris, 1970), or negligible effects (Hollander and Plutchik, 1972; Katz, Johnson and Gelfand 1972; Quilitch, 1975) on the staff's actual work performance.

Unfortunately, the available research does not bear out the optimistic assumptions made by many about the value of in-service training. Consequently, existing staff training models are being scrutinized with the realization that traditional institutional pre-service and in-service training models sometimes serve little purpose but to perpetuate the maintenance of inadequate existing systems.

Development of the Model

In 1975, Boulder River School and Hospital was attempting to comply with recent federal and state "right to treatment" laws which mandated that the facility provide habilitative treatment to all institutionalized residents. In order to comply with the laws, it became obvious that the institution would either have to hire a large contingent of professional therapists and training specialists or develop a staff development program to

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train direct-care workers to become competent, paraprofessional treatment agents. The latter solution was chosen, and in January of 1976 the staff of Boulder River School and Hospital began to replicate the Teaching Research Model, developed by the Teaching Research Infant and Child Center in Monmouth, Oregon. During the first year of operation the original Teaching Research Model underwent many changes and evolved into the Boulder Training Model (BTM). The demonstration classroom, a major component of the model, was also modified and became known as the Boulder Training Center (BTC). In essence, the Boulder Training Model became a complete system of establishing, delivering, monitoring, and maintaining habilitative training and behavior management programs within the institution.

Components of the Model

In the Boulder Training Center, staff are instructed in resident training techniques and in the overall system of data collection and analysis. Direct-care, management, and support staff are trained in a one-week, 35-hour course. The course consists of approximately four hours per day of practical, or "hands on", training, in which trainees learn to run 1:1 skill acquisition programs, conduct activity areas (group programs), conduct table manners training, and interact appropriately with the seven residents who are BTC students. Trainees spend another three hours per day in an academic classroom setting, where they are introduced to the basic principles of behavior modification, behavior measurement techniques, analysis of data, called "updating", and behavior intervention techniques. In a typical week, a group of trainees consists of six to eight employees. Thus, the ratio of instructors to trainees is one to two, which allows the trainees to be monitored continually through the intense "hands on" activities.

The seven residents who participate in training programs in the BTC are selected from several cottages within the institution. These residents exhibit a wide range of skills and behavior problems, and they provide the trainees with both familiar and unfamiliar behavioral repertoires.

During the training week, the trainees have no responsibilities other than attending the BTC. The trainees' performance is geared toward meeting twelve specific, criterion-based training objectives that are directly related to their cottage training responsibilities.

Assessment tools used during the training week vary from one objective to the next. For practical training objectives, of which there are seven, evaluation checklist forms have been developed to objectively rate specific training behaviors, such as the delivery of cues, consequences, the recording of data, and so on. Performance on the five academic objectives is measured with a variety of written exercises. For instance, updating, one of the academic skills taught, consists of trainers analyzing program data and deciding how to advance a student through or make changes to the task analysis of an individual training program.

Eleven of the 12 objectives carry performance criteria of 90% accuracy. The sole exception, the rotation of trainer's attention to the students in the activity area, has a criterion of 100%. These relatively high criteria were chosen as a means of insuring consistency in training techniques and in the hopes of facilitating maintenance of training skills.

Generalization of the Model

For a typical cottage (about 25 staff), there are four training weeks in the BTC classroom. Following this training, the BTC instructors accompany the trained staff back to their work area and begin a three-week period known as "follow-up". During follow-up, the BTC and cottage staffs work together to insure that the model is fully implemented within the cottage. Follow-up begins with the BTC instructors and cottage supervisory staff targeting specific objectives, based on the results of a standardized cottage assessment checklist completed by the BTC staff.

Also during follow-up, the BTC staff observes cottage staff conducting individual, group, and mealtime training programs with the cottage residents. The instructors rate training performance and give feedback the same as in the classroom as a means of generalizing classroom skills to specific work duties.

At the end of the follow-up period, the BTC staff again conducts a cottage assessment, pinpointing specific strengths and deficits regarding the model's implementation in the cottage. From this information, a final list of recommendations for cottage supervisory personnel is prepared. Following the BTC's intervention, assessments by supervisory staff continue on a quarterly basis. A training specialist in each cottage assesses individual trainer's performance each month, and these assessments are included in the overall work evaluation of the trainers.

Results

Since January 1, 1976, the Boulder Training Center has trained approximately 700 staff at the average cost of $325 per trainee. Sixty-eight percent of these staff were direct-care workers, while the remaining 32% were administrative, support, or professional staff. During training, each trainee was required to meet criterion on 12 training objectives. Of these 12, nine were chosen for discussion in this report because of their relationship to the direct training duties of direct-care staff.

Of the entire population of direct-care staff trained, 195 were randomly selected from BTC training files, and the mean scores were complied on their "first" and "best" attempts at each of the nine objectives. It is important to note that the first attempt scores here are not true baseline scores, since each trainee had received verbal instructions, a videotape model, and a live demonstration of the behaviors prior to his or her first attempts.

Objectives	First Attempt	Best Attempt	Mean % Of Change
1:1 Cues	76.0%	98.7%	+22.7%
1:1 Consequences	71.6%	98.2%	+26.6%
1:1 Data Recording	85.9%	99.8%	+26.6%
Group Cues	81.6%	98.1%	+16.5%
Group Consequences	80.3%	96.9%	+16.6%
Group Rotation	55.0%	98.5%	+43.4%
Terminology	78.9%	94.8%	+15.9%
Updating	80.9%	91.6%	+10.7%
Incidental Interactions	80.6%	95.4%	+14.8%

On each of the nine objectives examined, an increase was observed from the first attempt scores. The objectives showing the largest increases all related to practical, or "hands on", training objectives.

During follow-up periods, the BTC instructors assisted the newly trained staff in the generalization of their skills to training duties in the actual work areas. Overall, 74% of direct-care staff met all 1:1 program objectives on their first evaluation in the cottage; 92% met all group program objectives on their initial follow-up observations, and 88% met criteria on the appropriateness of incidental interactions on the initial follow-up observations. Reliability between observers during the follow-up observations was consistently above 90%.

Maintenance of the Model

The BTC spent nearly three years training the staff from 15 separate cottages. The BTC staff returned to these cottages during December of 1978 and January of 1979 to determine the level of maintenance of these training skills. The same tools that were used to evaluate trainees during the classroom and follow-up phases were also used in the maintenance evaluation.

In the maintenance evaluation, 23 trainers were observed, and the mean scores for each of the nine selected objectives were compiled. In addition, the group's mean classroom scores for the first and best attempts on each objective were compiled. These data are presented below.

On each of the nine objectives examined, increases were observed between the first attempt and best attempt scores. The increases for all objectives ranged from 7.8% to 47.5%. The maintenance evaluation scores generally dropped to a level that was slightly above the first attempt scores.

Discussion

The Boulder Training Model offers several advantages over traditional staff development programs: 1) it is a complete system of staff and resident training that is less likely to be affected by a high staff turnover rate; 2) it has as a cornerstone, an efficient demonstration classroom that can teach all aspects of the model to any employee in one intensive week of train-

Objectives	First Attempt	Best Attempt	Maintenance Score
1:1 Cues	64.8%	98.3%	80.4%
1:1 Consequences	67.9%	96.9%	71.0%
1:1 Data Recording	92.2%	100.0%	93.0%
Group Cues	75.3%	98.3%	84.7%
Group Consequences	80.4%	96.7%	82.0%
Group Rotation	52.5%	100.0%	85.7%
Terminology	75.0%	95.5%	84.7%
Updating	76.3%	94.3%	62.3%
Incidental Interactions	85.2%	95.4%	88.9%
Mean	74.4%	97.3%	81.4%

ing; 3) the model is data-based, eliminating the guesswork from treatment and management decisions; and 4) the model is relatively inexpensive when compared to the alternative cost of hiring an adequate number of professional therapists.

In addition, as part of the model, the Boulder Training Center overcomes several problems inherent in most traditional staff development programs. First, the BTC teaches the actual behaviors expected of staff in the work area. In traditional staff training programs, students are often taught verbal skills that they must then translate into performance skills for application in the work environment. Second, most training programs stop after the class ends, with the assumption that skill generalization will occur naturally. BTC training ends in the actual work environment, three weeks after classroom training. This follow-up makes it more likely that generalization will occur and that the model will be effectively implemented. Finally, the issue of consistency within and across staffs is addressed by centralized staff training and monitoring of their performance.

The data that have been collected to assess the effects of the BTM indicate that it is an effective method of training employees to conduct habilitative training programs and of assisting them to generalize those skills to a variety of work environments within the institution. The evaluation of the maintenance of trainers' skills indicates some loss of skills over time. However, on seven of the nine objectives, the trainers' scores were still above those achieved on the first classroom attempts, which were preceded by instructions, video-tapes, and live models. The mean scores received on the academic and practical objectives at the maintenance observation was 81.4%. Although this was less than the desired 90% criterion, these results suggest that the training has positively affected employees' training skills.

An analysis of the monitoring and feedback systems of the model in the cottages is needed, and modifications must be made so that trainers will consistently meet or exceed the 90% criterion in their work areas.

Trainee feedback relating to the quality and usefulness of the training project has been positive, and, since the implementation of the model, the amount of habilitative training provided to the residents by direct-care staff has steadily increased. (These data are included in the complete version of this paper and available upon request.)

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A MAINTENANCE STRATEGY FOR STAFF TRAINING

BY GARY ADAMS & BARBARA L. MATLOCK

Many types of reinforcement have been used to alter the training performance of teachers or institutional staff. Time off (Watson, Gardner and Sanders, 1971), selecting work shifts (Ayllon and Azrin, 1968), money (Pomerleau, Bobrove and Harris, 1972), tokens or coupons (Pommer and Streedbeck, 1974), and selecting days off (Iwata, Bailey, Brown, Foshee and Alpern, 1976), are a few examples of reinforcers that have been used successfully to improve trainer performance. Although these reinforcers and others have improved trainer performance during the experimental interventions, reviewers of staff training have noted the lack of follow-up by researchers (Gardner, 1973; Kazdin and Moyer, 1976; Loeber, 1974). In general, studies with follow-up data have shown little or no maintenance of the behaviors under study (Brown, Montgomery and Barclay, 1969; Cooper, Thompson amd Baer, 1970; Cotler, Applegate, King and Kristal, 1972; Hall, 1971; Kazdin, 1974; Martin, 1972; Pomerleau, Bobrove and Smith, 1973). Even though it would appear that creating a successful maintenance strategy should be a major objective of researchers, it has not been adequately examined in the literature.

The present study has two purposes: 1) to analyze various components of staff training, and 2) to evaluate a strategy for maintaining training behavior. Delayed, graphic feedback was given on a faded, variable schedule during the maintenance strategy. Its effect on trainer performance was evaluated with three follow-up observations.

METHOD

Setting

Staff on the morning shift in one cottage at Boulder River School and Hospital were observed during this study. The cottage contained 32 profoundly retarded female clients. The staff members had completed an intensive, one-week inservice training workshop on behavior modification and skill training about one month before the onset of this study.

Measurement

The staff were observed during the residents' lunch period on Tuesdays through Saturdays. The observer, who was in the dining room, wrote down the names of the staff in the room (usually three or four trainers). A time sampling procedure was used. Every 15 seconds the observed staff member's behavior would be recorded in one or more of the following categories:

(Appropriate trainer behaviors)
Appropriate Help -- physically assisting a client's hand(s)
Cue-Consequence -- giving an appropriate cue followed by socially reinforcing or correcting the client's response.
Consequences -- a reinforcing response by the trainer to a client

(Inappropriate trainer behaviors)
Inappropriate help -- physically performing a task for a client, rather than offering assistance
Cue-No Consequence -- giving a cue, but not socially reinforcing a correct response or correcting an incorrect response
Inappropriate Cue -- asking a question of a non-verbal resident (e.g., "Do you want some bread?")
Multiple Cue -- giving more than one cue without following each cue with a reinforcer or a correction procedure
No Response -- no trainer behavior toward any client
Staff Interaction -- talking to other trainer(s). This was rated as neutral if the observed trainer was also doing an appropriate behavior without any inappropriate behavior.

The first staff member on the data sheet was observed for one minute (four 15-second samples). Then the next staff member was observed, then the third, and so on, until each staff member had been observed for five minutes. If a staff member was out of the dining room during his or her observation interval, that particular sample was eliminated from all calculations.

A 15-second sample was counted as appropriate if it contained at least one of the appropriate behaviors above and none of the inappropriate behaviors. This method of calculation results in a conservative measure of appropriate staff behavior, especially within the constraints of a 15-second time sample. Often a staff member would give a cue during the first time sample and then reinforce the response to that cue during the second time sample. The first sample, of course, would be marked as inappropriate.

Reliability checks by two independent observers were conducted throughout this study on a weekly basis. The average reliability of the 15 observations taken was 94%, with a range of 89% to 99%.

Procedure

An ABCBCDB experimental design was used in this study. The experimental conditions consisted of the following phases:

Phase 1 (baseline) -- During baseline, the staff were observed without intervention. The supervisor of the cottage expected the staff to follow the training guidelines that they were taught during the inservice workshop, but no active demands were placed on the staff.

Phase 2 (signs and grouping) -- After obtaining information from staff, the residents were grouped according to the level of their eating skills. This homogenous grouping strategy replaced a heterogenous grouping. In addition, mobiles were hung above the clients' tables. Signs with individualized mealtime target behaviors (usually two for each resident) were placed on the mobile above each resident's place. Each sign also had a reminder to socially reinforce appropriate eating behavior and to let the residents do things for themselves.

Phase 3 (signs, grouping, and feedback) -- An experimenter began reinforcing appropriate training behavior and giving corrective feedback to staff during this phase. A shaping procedure was used to socially reinforce improvements in staff behavior. The corrective feedback usually centered around inappropriate help, lack of consequences following cues, or a generally low level of social reinforcement toward the client.

Phase 4 (follow-up) -- After six days of the feedback phases, the experimenter stopped giving feedback to the staff. Follow-up data were taken on the first day after feedback was stopped and then at seven-day intervals for three weeks.

Phase 5 (reinstatement of feedback) -- Feedback to staff, as in Phase 3, was again given during this phase.

Phase 6 (maintenance strategy: delayed feedback, graphic feedback, and fading) -- Immediate verbal feedback was stopped, although the observer continued taking data during lunch. At the end of the meal, the observer calculated the percentages of appropriate staff behavior on an individual and a group basis. These data were transferred to individual and group graphs. The group graph was posted in the staff office. The experimenter met with each trainer separately and reviewed his or her individual graph. In addition to delaying the feedback and putting it into graphic form, a fading strategy was employed. The following schedule was used to gradually fade the number of staff performance reviews: first two weeks - six observations; second two weeks - four observations; third two week - two observations; fourth two weeks - one observation.

Phase 7 (follow-up) -- At the beginning of this phase, an experimenter announced that there was no need to spend any more time on monitoring mealtime training, and the group performance graph was removed from the staff office. Three follow-up observations at four-week intervals were conducted, during which nothing was said to staff. If the observer was asked why another observation was being done, an ambiguous answer was given. Only staff members who were in previous active phases were included in follow-up observations.

Results

Figure 1 shows the results of this study. Even though the staff had recently completed a one-week training program, the average percentage of appropriate training behavior at baseline was only 13.3%. The introduction of homogenous grouping and signs with individualized training target behaviors resulted in an improvement in training behavior. The average percentage of appropriate training behavior during this phase was 29%.

The addition of immediate feedback led to a rapid improvement in the percentage of appropriate training behavior. The average percentage of appropriate behavior was 45% during the third phase. When the feedback was abruptly dropped, there was a drop in performance to a 33% average of appropriate behavior. Reinstatement of the verbal feedback resulted in a return to the earlier level of performance, with an average percentage of appropriate behavior of 43.8%.

Surprisingly, the staff performance did not drop during the maintenance strategy; it rose slightly (average appropriate behavior 44.1%). The three follow-up data points at four-week intervals show little decline in training performance. The decline was only 3.8% in average training performance between the maintenance phase and the follow-up phase, in which the percentage was 40.3%.

Discussion

Training skills learned in the inservice training class did not immediately generalize to the cottage setting, as was seen in Phase 1 (baseline). Staff were observed to be constantly doing things for the resident (e.g., putting food on their plates or feeding them) or giving cues without following with a consequence (reinforcer or correction procedure).

Homogenous grouping in Phase 2 seemed to improve training; trainers under the heterogenous grouping system had tended to spend a greater portion of their time with the higher functioning clients. With the institution of the homogenous groupings, trainers began to assign themselves to specific tables rather than having everyone exercise general responsibility for the whole group.

In Phase 3, immediate feedback by the experimenters was popular with the staff. Many staff members expressed pleasure about receiving "expert" opinions on their performance. As stated earlier, most of the feedback about staff performance attempted to decrease the staff's reinforcement of dependent behavior (doing tasks for the clients), to remind the staff to give a consequence for each cue they gave, and to improve the overall rate of reinforcing comments to the clients. Almost every data point in the feedback phase was above the data points in the previous phase. As in other studies, though (Cooper, et al., 1970; Kazdin, 1974; Martin, 1972), when the feedback and social reinforcement were withdrawn in Phase 4, the staff performance returned to a lower level. Reinstatement of the feedback in Phase 5 resulted in an improvement in performance to the level of the previous feedback phase.

It was expected that in Phase 6, the maintenance strategy, the staff performance would drop because the feedback was

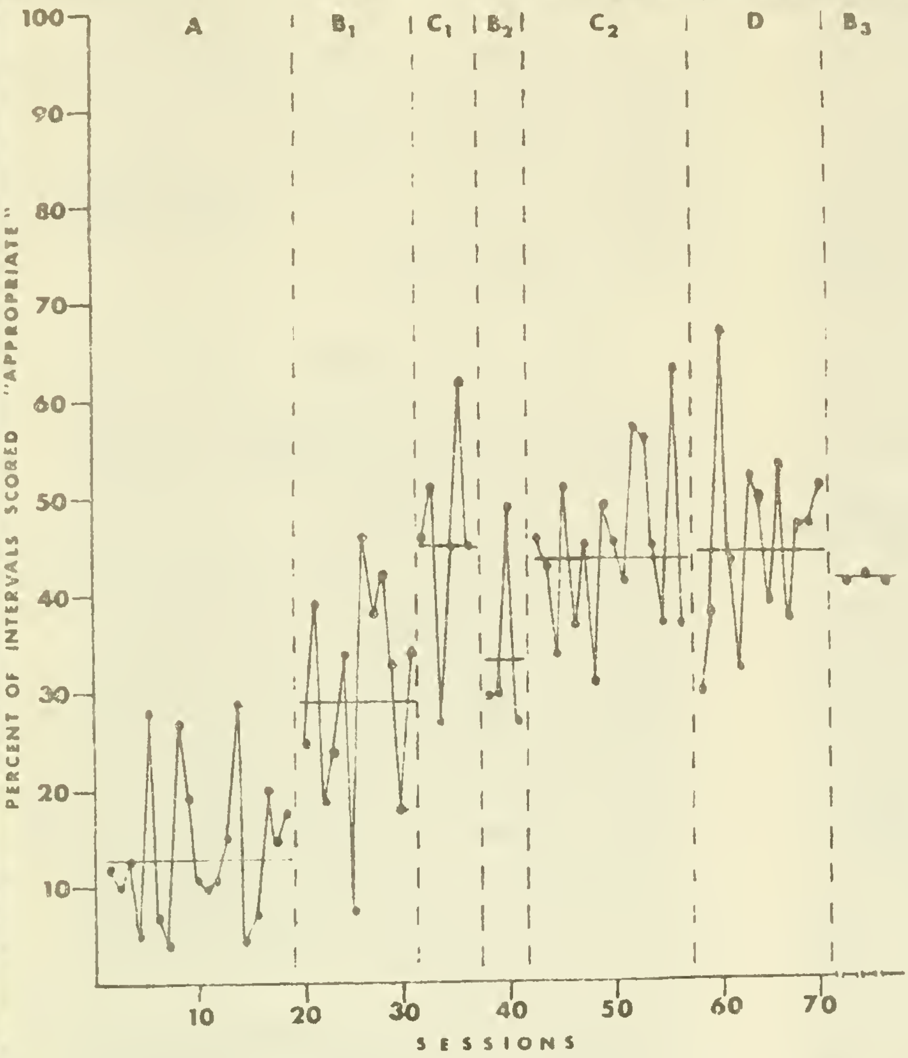

Figure 1. Percentage of Intervals with Appropriate Staff Behavior

A - Baseline
B_1 - Signs/Grouping
C_1 - Signs/Grouping/Feedback
B_2 - Follow-up (Signs/Grouping)
C_2 - Signs/Grouping/Feedback
D - Delayed Feedback/Graphing/Fading
B_3 - Follow-up (Signs/Grouping)

delayed until after lunch and was not given as often. This expected decrease did not occur. Overall, there was a slight improvement in appropriate training behavior (.3%) between the feedback and maintenance phases. A major reason for this result may have been the use of graphic feedback as a part of the maintenance strategy. Even though the individual graphs were not publicly posted, staff members were extremely interested in their graphic results. During their coffee breaks after lunch, the staff often discussed their percentages for the day, which may have caused some competition among them.

The amount of decline seen in the follow-up observations was low. Based on averages, the decline was only 3.5% when compared to the immediate feedback phase and 3.8% from the maintenance phase. There was a slight, unplanned modification of the study during this phase: the shift supervisor, who did not know about the purpose of the study or the collection of follow-up data, made a change in the seating arrangements of about one-fifth of the residents one day prior to the second follow-up observation.

Overall, the maintenance strategy appeared effective, as shown by the three months of follow-up data. When compared to the phase in which feedback was abruptly dropped (Phase 4), the influence of delayed, graphic feedback which was systematically faded out showed the highly desirable result of continued high training performance.

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MONTANA'S CHILD AND FAMILY SERVICES

BY RON LANGWORTHY, DIRECTOR, SPECIAL TRAINING FOR EXCEPTIONAL PEOPLE, BILLINGS, MONTANA

The same year (1975) that Montana's legislature increased funding for Boulder River School and Hospital by 77%, a bill was passed to create the Developmental Disabilities Division of Social and Rehabilitative Services. The Division carried the mandate to develop and monitor community programs. Eventually a network of Child and Family Service agencies (C&FS) was created, funded by a combination of Title XX and state monies. These Child and Family Services were seen as the preventative edge of the overall system; that is, after adult services were set up, it became apparent that it would also be necessary to support the parents of school-aged children and children under the age of six in order to maintain a comprehensive deinstitutionalization program.

Today there are six C&FS agencies, one each in four of Montana's five regions and two in the geographically huge Region I. These six agencies provide a wide range of services to parents who have handicapped children in the home. The families' participation is completely voluntary and free of cost. The service is offered as a supplement to school services if the child is of school age. C&FS concentrates on the hard-to-serve, that is, the younger clients, the multihandicapped, and those whose care poses a stress on the family.

The services focus more on the parents than on the child. If we teach parents training skills, they can become independent trainers of their children. We can thus serve more people. The services designed to accomplish this have been categorized into family training, client training, family resources and support, family services coordinates, and information and referral.

Family training involves teaching parents the skills necessary to become the primary behavior change agents for their children. Thus, we might teach a parent the same skill that paraprofessional trainers master in the Boulder Training Center, such as baselining, prompting, shaping, fading, cueing, consequating, and collecting data.

Direct *client training* is not emphasized, but occasionally parents are unable to carry out the needed training programs, In such cases, a C&FS agency will send out a Home Teacher to work with their child.

Family resources and support encompasses non-training services, such as transportation, educational information, specialized evaluations, adaptive equipment, technical assistance, crisis intervention, and socio-educational support (including limited counseling). Through this category, Home Teachers can offer parents small amounts of money as an incentive to carry out training programs which otherwise might not be attempted.

The purpose of *service coordination* is to provide effective, efficient service to a family. Home Teachers try to maximize the services available to a family, which often means referral to other agencies followed by coordination of all services received by the family. Closely related to this function are the *information and referral* activities of C&FS.

C&FS agencies also commonly administer respite services. Respite helps parents who have handicapped children or adults living at home to find people who will assume care of the clients for short periods. The C&Fs agency then reimburses parents for the cost. This is a preventative maintenance program that recognizes the long-term wear and stress often caused by caring for the handicapped individual in the natural or foster home.

Of the six C&FS agencies, the ones in Billings and Great Falls operate children's group homes. One purpose of these group homes is to provide transitional placement where the clients can be taught the skills necessary to move into a less restrictive setting, that is, the natural or a foster home.

On the whole, however, Child and Family Services are home-based, rather than center-based. Family trainers travel their regions routinely, visiting the homes of clients on their caseloads. Caseloads vary according to administrative support and the travel involved, but they generally average 15 clients.

Montana's C&FS network saves tax dollars in the long run by supporting least restrictive alternatives in caring for the developmentally disabled. Considering the residential placement alternatives, as an example, group homes are less expensive than the institution, foster homes are less expensive than group homes, and natural homes are less expensive than foster homes. By emphasizing the integrity of the natural home, C&FS attempts to maintain that alternative. Early intervention with young children also saves money by avoiding more costly, more restrictive alternatives in the educational range of services.

Child and Family Services thus provide a wide range of services intended to prevent institutionalization, lessen the severity of disabilities, and soften the impact of handicapped children in Montana families. Family training and support are the vital elements in a service system that is seriously striving for deinstitutionalization.

A REDUCTION OF AGGRESSION THROUGH REPRIMAND, REMOVAL, AND DRO

BY ALAN BICKETT & BARRY COHEN

METHOD

Subject

Jim is a nineteen-year-old, profoundly retarded male with Down's Syndrome. He was institutionalized at the age of one month and has resided at Boulder River School and Hospital since 1969. Jim has a long history of aggression, principally slapping, hitting, and shoving, and has lived in the cottage where this program was conducted for two years prior to the initiation of the present study.

Dependent Variable

The target behaviors were defined as "hitting, kicking, or pushing residents or staff, or throwing objects at residents or staff." Each time one or more of the target behaviors occurred, staff were required to record the date, time, specific behavior(s), and the observer's initials on a data grid which was posted on a window between the dayhall and the major hallway of the cottage. Unfortunately, no formal reliability measures were taken, but informal observations by the authors indicated that the data were reliable and that reliability was consistent across conditions.

Experimental Conditions

Baseline. During the baseline condition, cottage staff were instructed to record occurrences of the target behaviors. No instructions were given on the delivery of any consequence for the behaviors. During this phase, Jim was generally moved away from any person he aggressed against. He was often reprimanded, and, on a few occasions, he was required to stand in a corner for a short period of time.

Reprimand, Removal and DRO. During this condition, occurrences of the target behaviors were followed by a verbal reprimand ("No, Jim, you don't ____."), and by the removal of Jim to an area at least 30 feet from the place in which the behavior(s) occurred. This usually meant that Jim was removed to his bedroom. In addition to these punitive procedures, Jim was placed on a schedule by which he was to be socially reinforced by staff on the PM shift (2:00 PM - 10:00 PM) at least once every 15 minutes unless the target behavior(s) had occurred within two minutes preceding a scheduled reinforcement time.

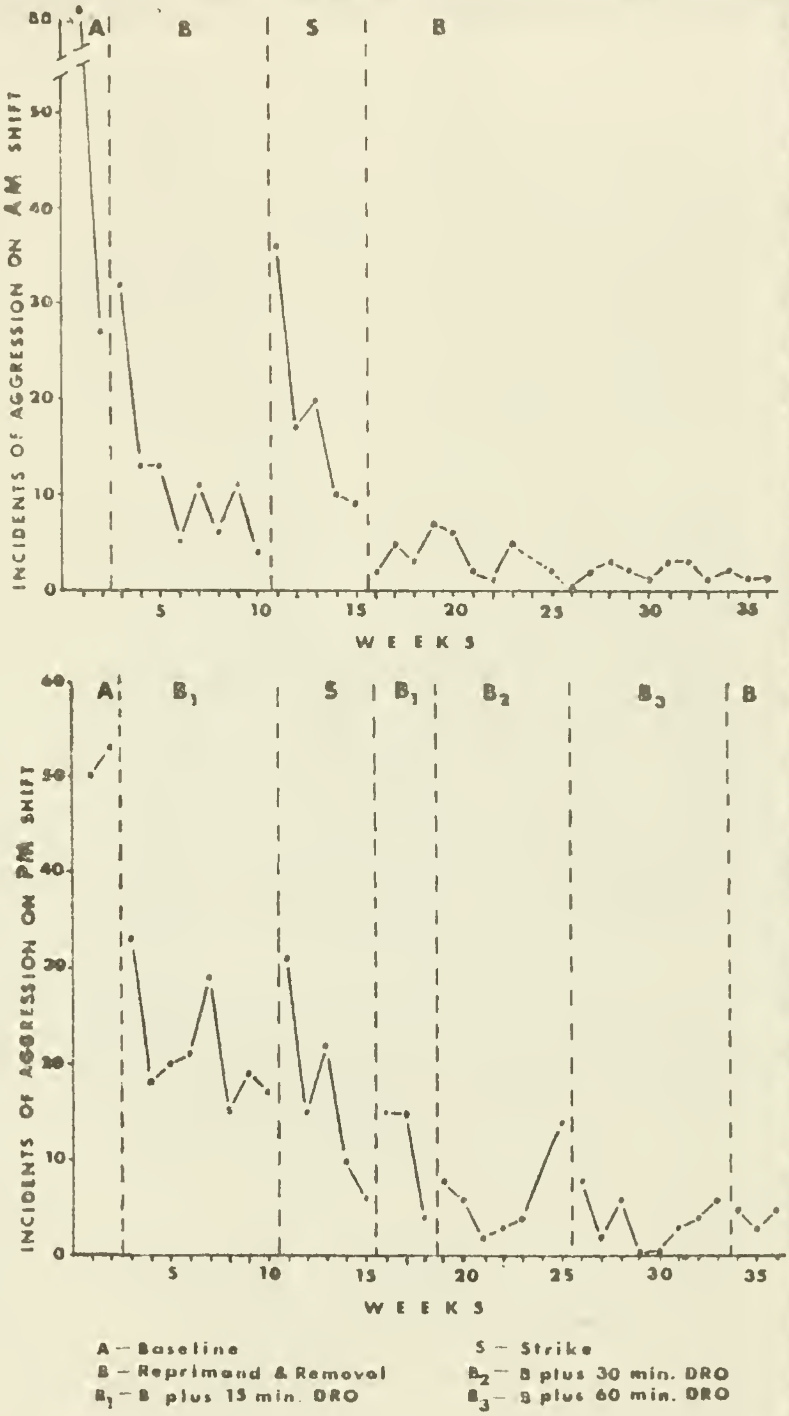
Strike. A five-week strike at BRS&H resulted in the cottage being staffed by non-union personnel, only one of whom normally worked in the cottage, and by groups of National Guardsmen, who rotated through the cottage approximately every eight days. During this period, the same procedure of reprimand, removal, and DRO was kept in effect for Jim's aggressive behaviors. National Guardsmen were given brief instructions on its implementation during their orientation to the cottage.

Reprimand, Removal and 15-Minute DRO. During this condition, the procedures were identical to those used in the first intervention condition. This condition began immediately upon the return of the regular cottage staff following the strike.

DRO Fading. During subsequent conditions, the time between scheduled DRO interactions was increased to 30 minutes, 60 minutes, and finally eliminated completely.

RESULTS

As the graph clearly shows, the initiation of the described procedure coincided with a sharp decrease in the incidents of aggression on both the AM and the PM shifts. During the strike, there was an increase in the number of Jim's aggressive incidents, but as the strike continued, the frequency of aggressive acts declined.



The fading of the DRO procedure was successful; Jim's rate of aggression was lower during the final removal and reprimand condition than it had been during either condition of removal and reprimand with the DRO. The mean number of incidents of aggression per week for the respective conditions was 52, 22, 20, 20, 6, 4, and 4 on the PM shift and 54, 14, 21, 5, 4, 2, and 1 on the AM shift.

DISCUSSION

The results described above may be faulted for both the weakness of the design and the lack of a reliability measure. The results, however, do suggest that the reprimand, removal, and DRO procedure was successful in reducing aggressive behavior in an institutionalized resident who had a long history of such behavior. The procedure also appears to have been effective during the strike period, which indicates that it was effective even under disruptive conditions and that it can be implemented consistently by staff with only minimal training and experience working in the cottage.

Interestingly, the rate of aggression decreased across both work shifts, even though the DRO component was implemented only on the PM shift. Anecdotal evidence indicates that generalization of positive social interaction was occurring across shifts. However, the design of this study does not enable the analyst to reliably discern if generalization was, in fact, occurring or if the DRO schedule simply was not an operant factor in the reduction of the target behaviors.

The rate of the behaviors continued to remain low even after the complete removal of the DRO component; this is an important result for those of us who have to deal with a large number of behavior problems simultaneously. Staff have noticed that DRO procedure seemed to increase the frequency with which Jim attempts to engage staff in appropriate interactions. Thus, it appears that he has learned an alternate, more appropriate means of getting attention. It is hoped that further, more controlled efforts will be made to test this simple, potentially effective procedure.

NOTES FROM THE BTC

Several events have occurred in the Boulder Training Center over the past year. Most notably, the staff of the BTC, along with the Director of Staff Development, James Burgess, have completed two major projects.

The first, an assessment of the training effort under the Boulder Training Model, was completed in June of 1979. This evaluation reviewed three years of activity since the training model was implemented and examined the extent to which the training model has been established and maintained in separate areas of the institution. A summary of the assessment, by Plaska, Burgess and Tillema, appears in this issue of the Boulder Behaviorist.

The assessment pointed out several deficiencies in the maintenance of the training model, most notably in the ongoing delivery of training services. On the whole, these deficiencies were seen as resulting from the lack of management procedures that maintain high levels of training skills and program delivery.

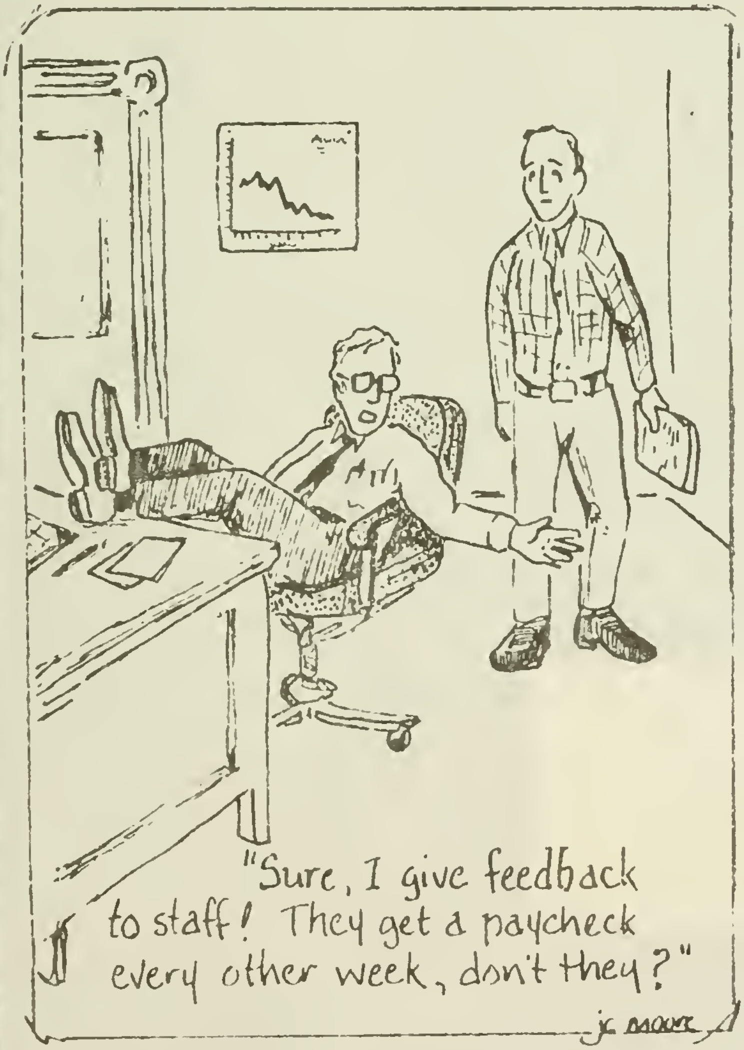
With the objective of developing cost-feasible and effective staff management procedures, the BTC staff have applied for a grant under the Handicapped Field Initiated Research program of the Bureau of Education for the Handicapped. The proposed project is designed to study the effects of four staff management procedures on the adaptive behavior changes of the residents at BRS&H. Other dependent variables include the quality and quantity of services delivered to the residents.

The main focus of the research would be a comparison of self-monitoring of training behaviors by direct service staff and the monitoring of those behaviors by first-line management personnel. In addition, each procedure would have conditions in which positive contingencies for training behaviors would be administered. The effects of these contingencies could then be compared to the effects of simple feedback (supplied by self-monitoring or supervisor monitoring).

Completion of the research would result in the implementation of the most effective procedures throughout the institution. Secondarily, the results generated by the research would be made available to the public; staff management has attracted considerable interest in the past few years, yet a hard comparison of the procedures outlined above has so far been neglected.

In December, Mary Tillema, the Director of the BTC for the past two years, resigned to accept a postion as research director for a group home corporation in Ann Arbor, Michigan. An instructor in the training center, John Moore, has been hired as director, and Linda Poniktera-Olson, a recreation therapist at BRS&H, has joined the ranks as an instructor.

At present, the training center is involved with the ongoing training of newly hired staff. Through an arrangement with Western Montana College at Dillon, trainees may now receive college credit for completing the BTC course as well as for going through other Staff Development programs. The training center is also working with the staff of individual cottages at BRS&H to maintain the training model at a high level.


"Sure, I give feedback to staff! They get a paycheck every other week, don't they?"
jc moore

POSITIONS AVAILABLE

Immediate opening for Recreation Therapist. Salary Range from $1,287 to $1,696 per month. Trains, supervises and coordinates professional employees providing therapeutic recreation services to developmentally disabled persons. Prefer Masters Degree in Recreation Therapy with one year of professional experience. Excellent benefits.

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Immediate opening for Physical Therapist II. Salary range from $1,287 to $1,696 per month. Assists in planning and directing therapy programs, trains technicians, consults with professionals, and administers therapy to developmentally disabled clients. Bachelors degree in Physical Therapy and completion of internship required. Must be licensed or eligible in Montana. Excellent benefits.

Please direct inquiries concerning the above positions to Boulder River School and Hospital, Personnel Office, P.O. Box 87, Boulder, MT 59632 or phone (406) 225-3311, ext. 284.

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Superintendent	Richard Heard
Habilitation Dept Dir	Timothy Plaska
Editors	John Moore Timothy Plaska
Graphics	John Moore
Production	Mike Myrhow
Typing	Word Processing

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